

C L A I M S

[1] A flame retardant for incorporation in a resin to impart flame retardance thereto, characterized as comprising a layered
5 titanic acid in the form of nanosheets intercalated with an organic basic compound.

[2] The flame retardant as recited in claim 1, characterized in that said layered titanic acid in the form of nanosheets is obtained by treating a layered titanate with an acid or hot water
10 and then allowing an organic basic compound to act on the layered titanate to thereby effect swelling of interlayer spaces or delamination.

[3] The flame retardant as recited in claim 1, characterized in that said layered titanic acid in the form of nanosheets is
15 obtained by treating a layered titanate with an acid or hot water and allowing an organic basic compound to act on the layered titanate, in one pot, to effect swelling of interlayer spaces or delamination.

[4] A flame retardant for incorporation in a resin to impart
20 flame retardance thereto, characterized as comprising a layered titanic acid in the form of nanosheets intercalated either with an organic basic compound and a halogen-free phosphazene compound or halogen-free flame-retardant nitrogen hetero-cyclic compound, or with a halogen-free phosphazene compound or
25 halogen-free flame-retardant nitrogen heterocyclic compound.

[5] The flame retardant as recited in claim 4, characterized in that said layered titanate acid in the form of nanosheets is obtained by treating a layered titanate with an acid or hot water and then allowing an organic basic compound and a halogen-free phosphazene compound or halogen-free flame-retardant nitrogen heterocyclic compound to act on the layered titanate, or alternatively, allowing a halogen-free phosphazene compound or halogen-free flame-retardant nitrogen heterocyclic compound alone to act on the layered titanate to thereby effect swelling of interlayer spaces or delamination.

[6] The flame retardant as recited in claim 4, characterized in that said layered titanate acid in the form of nanosheets is obtained by treating a layered titanate with an acid or hot water and allowing an organic basic compound and/or a halogen-free phosphazene compound or halogen-free flame-retardant nitrogen heterocyclic compound to act on the layered titanate, in one pot, to effect swelling of interlayer spaces or delamination.

[7] The flame retardant as recited in claim 2, 3, 5 or 6, characterized in that said layered titanate is represented by a general formula $A_xM_y\Box Ti_{2-(y+z)}O_4$ (in the formula, A and M are metals differing from each other and having a valence of 1 - 3, \Box is a defective site of Ti, x is a positive real number satisfying $0 < x < 1.0$, and y and z are independently 0 or a positive real number satisfying $0 < y + z < 1.0$).

[8] The flame retardant as recited in claim 2, 3, 5 or 6,

characterized in that said layered titanate is represented by
 $K_{0.5-0.8}Li_{0.27}Ti_{1.73}O_{3.85-4}$.

[9] A flame-retardant resin composition characterized as
containing 0.5 - 50 parts by weight of the layered titanate acid
5 in the form of nanosheets as recited in any one of claims 1 -
8, based on 100 parts by weight of a resin.

[10] The flame-retardant resin composition as recited in claim
9, characterized in that said layered titanate acid in the form
of nanosheets in the resin exhibits an aspect ratio (Z) in the
10 range of 50 - 100,000.

[11] The flame-retardant resin composition as recited in claim
9 or 10, characterized in that, besides said layered titanate
acid in the form of nanosheets, it further contains 0.01 - 50
parts by weight of a halogen-free phosphazene compound, based
15 on 100 parts by weight of the resin.

[12] The flame-retardant resin composition as recited in any
one of claims 9 - 11, characterized in that, besides said layered
titanate acid in the form of nanosheets, it further contains 0.01
- 50 parts by weight of a halogen-free organic or inorganic flame
20 retardant, based on 100 parts by weight of the resin.

[13] The flame-retardant resin composition as recited in any
one of claims 9 - 12, characterized in that said resin is a
thermosetting resin.

[14] The flame-retardant resin composition as recited in any
25 one of claims 9 - 12, characterized in that said resin is a

thermoplastic resin.

[15] The flame-retardant resin composition as recited in any one of claims 9 - 12, characterized in that said resin is a biodegradable resin.

5 [16] The flame-retardant resin composition as recited in any one of claims 9 - 12, characterized in that said resin is an engineering plastic.

[17] The flame-retardant resin composition as recited in any one of claims 9 - 12, characterized in that said resin is a rubber.

10 [18] The flame-retardant resin composition as recited in any one of claims 9 - 17, characterized in that it achieves a V-0 or V-1 rating in the UL94 flame retardance test.

[19] A resin product characterized in that it is obtained by processing the flame-retardant resin composition as recited in
15 any one of claims 9 - 18.